REMARKS

Claims 66-72 are pending in the present application. The Examiner's rejections are as follows, listed in the order in which they will be addressed:

I. The Examiner asserts that the title is not descriptive;

II. Claims 66-72 stand rejected under 35 U.S.C. §102(b) as allegedly being anticipated by US Patent No. 5,863,719 to Houghton, *et al.*, (herein after "Houghton"); and

III. Claims 66-72 stand rejected under 35 U.S.C. §102(e) as allegedly being anticipated by US Patent No. 6,511,803 to Church, *et al.*, (herein after "Church").

I. The Examiner asserts that the title is not descriptive. The title is herein amended to recite "Detection of RNA". Applicants submit that the title is clearly indicative of the invention to which the claims are directed.

The Claims Are Not Anticipated.

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. MPEP 2131, citing *Verdegaal Bros. v. Union Oil Co. of California, 814 F.2d. 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).* As discussed in more detail below, neither Houghton nor Church disclose each and every element as set forth in the present claims.

II. Claims 66-72 stand rejected under 35 U.S.C. §102(b) as allegedly being anticipated by US Patent No. 5,863,719 to Houghton, *et al.*, (herein after "Houghton"). In particular, the Examiner asserts that Houghton teaches a method for generating an extension product wherein the method comprises the steps of a) providing an oligonucleotide primer comprising a firs region complementary to an accessible site on an RNA sequence, and a second region that is located 5' of the first region that is not complementary to the RNA sequence, II) an RNA sequence comprising an accessible site, and iii) a reverse transcriptase; and b) exposing the oligonucleotide primer and RNA sequence to the reverse transcriptase under conditions in which

the first region of the oligonucleotide primer hybridizes to the RNA sequence and is extended to form an extension product.

Applicants respectfully disagree. Nonetheless, for business reasons and without acquiescing to the Examiner's arguments, and reserving the right to prosecute the original or similar claims in one or more future applications, Applicants herein amend Claim 66 to recite a method of detecting an RNA having an accessible site sequence, and further to recite c) forming a cleavage structure comprising a nucleic acid duplex region comprising said accessible site sequence, d) cleaving said cleavage structure with a 5' nuclease; and e) detecting cleavage of said cleavage structure. Support for these amendments is found throughout the specification. See, *e.g.*, page 71, lines 9-12, for description of a cleavage structure comprising a duplex; page 71, lines 19-page 72, line 2, for a listing of a number of 5' nucleases disclosed for cleavage of cleavage structures; Figures 62-66 and Examples 19, starting on page 204 for discussions detection methods based on formation of a cleavage structure comprising a nucleic acid duplex region comprising an accessible site sequence. Example 15 starting on page 190 provides a detailed discussion of identifying the sequences of accessible sites in RNA molecules by extension of primers on the RNA. In particular, see, *e.g.*, page 194, lines 16-20 and Figure 47.

Houghton does not teach or suggest forming a cleavage structure comprising a nucleic acid duplex region comprising said accessible site sequence, cleaving said cleavage structure with a 5' nuclease, and detecting cleavage of said cleavage structure. Therefore, Houghton clearly does not set forth "each and every element" of the instant claims and consequently cannot anticipate these claims. Applicant respectfully requests that this rejection be withdrawn.

III. Claims 66-72 stand rejected under 35 U.S.C. §102(e) as allegedly being anticipated by US Patent No. 6,511,803 to Church, *et al.*, (herein after "Church"). In particular, the Examiner asserts that Church teaches a method for generating an extension product wherein the method comprises the steps of a) providing an oligonucleotide primer comprising a firs region complementary to an accessible site on an RNA sequence, and a second region that is located 5' of the first region that is not complementary to the RNA sequence, II) an RNA sequence comprising an accessible site, and iii) a reverse transcriptase; and b) exposing the oligonucleotide primer and RNA sequence to the reverse transcriptase under conditions in which the first region of the oligonucleotide primer hybridizes to the RNA sequence and is extended to form an

extension product. As discussed above, Applicants herein amend Claim 66 to recite a method of detecting an RNA having an accessible site sequence, and further to recite c) forming a cleavage structure comprising a nucleic acid duplex region comprising said accessible site sequence, d) cleaving said cleavage structure with a 5' nuclease; and e) detecting cleavage of said cleavage structure.

Church does not teach or suggest forming a cleavage structure comprising a nucleic acid duplex region comprising said accessible site sequence, cleaving said cleavage structure with a 5' nuclease, and detecting cleavage of said cleavage structure. Therefore, Church clearly does not set forth "each and every element" of the instant claims and consequently cannot anticipate these claims. Applicant respectfully requests that this rejection be withdrawn.

CONCLUSION

For the reasons set forth above, it is respectfully submitted that all grounds for rejection should be removed and Applicant's claims should be passed to allowance. Should the Examiner believe that a telephone interview would aid in the prosecution of this application, Applicants encourages the Examiner to call the undersigned collect at (608) 218-6900.

Dated: January 17, 2007

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